



Iowa TIER/FAST/IGDIs General Technology Requirements

Bandwidth Requirements

Iowa TIER works best with at least 10Mbps of available excess bandwidth in the building to handle the data traffic and assessment requirements for all of the assessments. This is assuming a rough maximum of 10-15 concurrent Iowa TIER users in the building.

The developers of the FAST and IGDIs assessments recommend that the building network has at least 30-40 Mbps capacity if the aReading test is administered in a lab setting. This would translate into a computer lab with roughly 1 Mbps per computer in simultaneous testing settings. This figure represents an estimate of the bandwidth needed for optimal performance. Many schools participating in last year's pilot have reported that the actual observed bandwidth used is far below this amount, closer to .2 or .3 Mbps per computer. Locations have also reported poor performance in networks with lower bandwidth that was already operating near capacity with other traffic.

We recognize that many elementary and preschool buildings may find the larger bandwidth estimates hard to achieve by the start of the 2015-16 school year. The following recommendations might be helpful in successfully administering these assessments in buildings that do not have the recommended amount of bandwidth:

- If possible, arrange to temporarily increase bandwidth during testing windows. Consult with your network service provider for other options and an analysis of your network and needs.
- Plan to limit other bandwidth-intensive activity during testing times (avoid streaming video along with other activities that put a strain on your data network).
- Transport students to labs at other buildings with greater bandwidth for group testing.
- Plan for rolling testing (smaller numbers of students testing at a time), rather than a lab full of students starting at the same time.
- Ethernet wired computers may be more reliable than computers using wireless - especially if there are many wireless users in relatively weak wireless settings.

Wireless Network Requirements

If testing will be conducted using computers connected to the network via wireless, consider where this testing will occur, how many simultaneous users will be active (including those being assessed, and other users), and what the wireless capabilities are in these areas. Wireless capacity should be robust enough to handle the bandwidth as described above.

Computer requirements

- The requirements for computers are minimal. The computer must be a relatively recent computer. Performance will be better with newer, faster computers.
- In terms of operating systems, the minimums are: Windows Vista or Windows 7; Mac OSX.
- Computers must have a minimum screen resolution of 1024 x 768.
- For student administration of aReading, the device will need headphones and a mouse.

- At this time, Iowa TIER, FAST and IGDIs systems have **not** been certified to support tablet devices. Development work is underway in this area, but please do not count on it until we know the work is completed.
- There are no plans to support small-format handheld devices like smart phones.

Browser requirements

- Firefox (version 16 or later) and Chrome (current version) are supported browsers.
- Within the browser, popup blockers must be disabled for FAST and Iowa TIER
- Within the browser, these items must be enabled:
 - Javascript/CSS
 - Cookies (TIER/FAST/IGDIs)
 - SSL
 - Adobe Reader for PDFs
 - Adobe Flash (Firefox only)
- IE, Safari and other browsers are not currently supported

NOTE: Specifics for the required settings for the Chrome browser are still being developed.

Firewall and content filter settings

- Because of the cloud based architecture we are utilizing for TIER and FAST, it would probably be safest to filter by domain rather than IP addresses. If this is an option for your content filters, please add the following domains currently in use:
 - *.fastforteachers.org
 - d2f8p5dd32sgdr.cloudfront.net
- These email domains need to be white-listed for communications related to Iowa TIER:
 - iowa.gov
 - edspring.org
 - iowatier.zendesk.co
 - umn.edu
 - Your AEA domain
- If a district uses packet shapers, traffic to and from the testing sites should be given adequate bandwidth and high priority.